Site Visit Report

Under the *European Union (Drinking Water) Regulations 2023*, the Environmental Protection Agency (EPA) is the supervisory authority in relation to Uisce Éireann and its role in the provision of public drinking water supplies. This audit was carried out to assess the performance of Uisce Éireann in providing clean and wholesome water to the public water supply named below.

The audit process is a sample of the performance of a water treatment plant and public water supply on a given date.

Water Supply Zone

Name of Installation	Glin PWS
Organisation	Uisce Éireann
Scheme Code	1900PUB1030
County	Limerick
Site Visit Reference No.	SV31458

Report Detail

Issue Date	05/02/2025
Prepared By	Orla Harrington

Site Visit Detail

Date Of Inspection	14/01/2025	**Announced**	Yes
Time In	10:30	**Time Out**	11:45
EPA Inspector(s) **Additional Visitors**	Orla Harrington		
Company Personnel	Uisce Éireann: Sharon O' Dwyer, Susan Cook. Limerick City and County Council (working in partnership with Uisce Éireann): Declan O'Connor.		

Summary of Key Findings

1. On 27/11/2024 Uisce Éireann received confirmation that *Cryptosporidium* had been detected in a final treated water sample taken at Glin water treatment plant on 20/11/2024. Following consultation with the HSE, two follow up investigative samples were taken on 29/11/2024 and 11/12/2024. The results were clear. It was found that the incident was escalated and managed appropriately to protect public health.

2. The protozoal compliance log treatment requirement for the supply has been determined as 3 log. There is no barrier to *Cryptosporidium* entering the Glin public water supply. Monitoring six times per year for *Cryptosporidium* is in place for the supply.

Introduction

The Glin public water supply serves a population of 696 and produces 282 m3/day from a single borehole located approximately 2km east of the water treatment plant. Treatment consists of disinfection by chlorination before passing through a pressure filter to remove iron and manganese. The treated water enters two reservoirs operating sequentially before distribution.

The audit was undertaken to assess the performance of Uisce Éireann in providing clean and wholesome drinking water following the detection of *Cryptosporidium* in the Glin public water supply from a sample taken on 20/11/2024. Two follow up investigative samples were clear.

Supply Zones Areas Inspected

The audit consisted of an inspection of the borehole and the treatment processes at the water treatment plant.

1. Incident Management

		Answer
1.1	Was the incident suitably alerted to the plant operators, escalated and managed in order to maintain water quality and protect public health?	Yes

Comment

1. On 27/11/2024 Uisce Éireann received confirmation that *Cryptosporidium* had been detected in a final treated water sample taken at the Glin water treatment plant on 20/11/2024 (0.02/No. per 10L).

2. Uisce Éireann notified the HSE and the EPA of the detection of *Cryptosporidium* on 28/11/2024. Two further investigative samples taken on 29/11/2024 and 11/12/2024 were clear.

3. Uisce Éireann stated that Glin public water supply source has a protozoal log credit requirement of 3 log and have committed to monitoring the final water in accordance with the *Uisce Éireann Rationale for Monitoring Cryptosporidium in Public Supplies* until a verified protozoal barrier is in place at the plant. Uisce Éireann were unable to provide a timeframe for when this work would be complete.

2. Source Protection

		Answer
2.1	Is the abstraction source(s) adequately protected against contamination?	No

Comment

1. The scheme is fed from a borehole located 2km east of the water treatment plant.

2. The borehole is not sealed or capped in accordance with EPA Drinking Water Advice Note No. 14: Borehole Construction and Wellhead Protection.

3. Disinfection

		Answer
3.1	Is the disinfection system verified using monitors and alarms?	No

Comment

1. Primary disinfection is achieved by using sodium hypochlorite, which is dosed using duty/standby pumps with automatic switchover. Chlorine dosing is flow proportional and linked to the residual chlorine monitor (CL002), such that any changes in the chlorine demand can be responded to automatically by the dosing pump.

2. On the day of the audit, the chlorine monitor (CL001) located post dosing was reading -2.50mg/l and there was no trend data available to inspect. Limerick City and County Council advised that a transfer pump on the sample line is out of operation and due to be replaced shortly.

3. The chlorine monitor (CL002), installed after the appropriate contact time has been achieved was reading 0.88 mg/l on the day of the audit. The CL002 trends were reviewed at the audit and showed satisfactory trend data.

		Answer
3.2	Is there a suitable monitoring frequency for residual chlorine in the network with records available?	No

Comment

1. Limerick City and County Council advised at the audit that there is no chlorine residual monitoring carried out in the network.

4. Reservoirs and Distribution Networks

		Answer
4.1	Are reservoirs adequately inspected and maintained?	No
	Comment	
	1. Uisce Éireann were unable to confirm when the reservoirs were last inspected.	

5. Management and Control

		Answer
5.1	Is the plant suitably managed and controlled to maintain the designed log credit on each treatment stage?	No

Comment

1. Uisce Éireann advised that a source and sanitary survey was carried out for the groundwater source in October 2022 and a protozoal log requirement of 3 is applied to the supply. This gives a -3 log treatment deficit as there is no treatment barrier to *Cryptosporidium* entering the supply from the borehole.

2. At present, monitoring for *cryptosporidium* is carried out 6 times per year.

6. Drinking Water Quality

		Answer
6.1	Is Cryptosporidium monitoring being carried out in accordance with Uisce Éireann's 'Rationale for Determining the Frequency of Cryptosporidium Monitoring in Public Water Supplies'?	No

Comment

1. Uisce Éireann were unable to confirm whether *Cryptosporidium* monitoring was being carried out in accordance with *Uisce Éireann's Rationale for Determining the Frequency of Cryptosporidium Monitoring in Public Water Supplies.*

		Answer
6.2	Is the treatment plant optimised for the removal of manganese?	No

Comment

1. Limerick City and County Council advised that manganese and iron levels are naturally occurring in the raw water. There is one pressure filter (labelled as Eurowater) for the purposes of removal but little information was available at the audit on how the filter operates. Uisce Éireann did not know the media type or depth of media contained in the filter. Limerick City and County Council estimated that the filter was installed at the water treatment plant close to 20 years ago. No maintenance or service records were available at the audit.

2. Operational monitoring is not routinely carried out of the final water, for example there was one monitoring result for manganese and iron available for 2024 (19/02/2024) manganese was <2.5 ug/l and iron 57 ug/l, which were below the drinking water limits. Uisce Éireann were unable to confirm the frequency of monitoring of raw and treated water to ensure the manganese and iron removal filter is operating effectively and efficiently.

7. Site Specific Issues

		Answer
7.1	Are all network customers receiving adequately treated water?	No

Comment

1. Limerick City and County advised that there are three connections to the main between the raw water abstraction point and the water treatment plant, receiving untreated water. The connections have been identified as a vacant property, agricultural property and a business.

2. A 'Do Not Consume' (DNC) notice has been issued to all affected properties, however a copy of the DNC or confirmation as to the date of issue were not available for inspection on the day of the audit. A new connection is to be installed to allow treated water to be fed directly to the affected customers. A completion date was not provided on the day of the audit.

Recommendations

Subject	Glin PWS - Audit Report	Due Date	05/03/2025
Action Text	**Uisce Éireann is responsible for ensuring a clean and wholesome supply of drinking water and should implement the following recommendations without delay.** 1. (i) Confirm how the protozoal log treatment deficit will be addressed and the expected completion date for the works to address the deficit; (ii) ensure monitoring is carried out in accordance with the *Uisce Éireann Rationale for Determining the Frequency of Cryptosporidium Monitoring in Public Water Supplies.* 2. Commence (i) an operational monitoring programme to ensure the manganese and iron filter is operating effectively and efficiently; (ii) ensure the details of the filter media service record are maintained at the water treatment plant. 3. Ensure the residual chlorine monitor (CL001 - post dosing) is working appropriately. 4. Provide a (i) copy of the Do Not Consume Notice imposed on the network connections; (ii) timeframe to connect all consumers to treated water from the plant. 5. Ensure that monitoring of residual chlorine is undertaken several times a week at different points of the network to include network extremities, and that records of the monitoring results are maintained, ensuring chlorine is >0.1 mg/l in the network. 6. Ensure the borehole is adequately capped and sealed. Uisce Éireann should have regard to EPA Advice Note No. 14: Borehole Construction and Wellhead Protection when carrying out these works. 7. Ensure the reservoirs are on the Uisce Éireann reservoir cleaning programme. **Actions required by Uisce Éireann** During the audit, Uisce Éireann representatives were advised of the audit findings and that action must be taken by Uisce Éireann to address the issues raised. Uisce Éireann should submit a report to the EPA on or before 05/03/2025 detailing the actions taken and planned, with timescales, to close out the above recommendations. The EPA advises that the findings and recommendations from this audit report should, where relevant, be addressed at other public water supplies.		